

About Glyphosate

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About Glyphosate:

- Glyphosate is a **widely used herbicide** that can **kill certain weeds and grasses**.
- The product is **used primarily in agriculture** but also in forestry and lawn and garden care.
- Glyphosate is a **small molecule made of a linear carbon chain with weaker bonds**, which **makes glyphosate less persistent in the environment**.
- **In India, it goes by various brand names**, including **Roundup, Glycel, and Brake**.
- **Herbicidal Action:**
 - Glyphosate works by **inhibiting an enzyme called EPSP synthase**, which is **essential for the synthesis of certain amino acids that plants need for growth**.
 - By disrupting this enzyme, **glyphosate interferes with the plant's ability to produce proteins**, leading to the **eventual death of the plant**.

- **Broad-Spectrum:**

- Glyphosate is considered a **broad-spectrum herbicide**, meaning it can effectively **control a wide variety of plants**, including grasses, broadleaf plants, and woody plants.
- It is **effective only on plants that grow above the water**. It will **not be effective on plants that are submerged** or have most of their foliage underwater, nor will it control regrowth from seed.

- **Systemic Nature:**

- Glyphosate is a **systemic herbicide**, which means it **is absorbed by the plant's leaves and then translocated throughout the plant's vascular system**.
- This **allows it to reach various parts of the plant**, including the roots, leading to effective control of both above-ground and below-ground plant parts.
- Glyphosate is **degraded in soil and water by microbes and binds tightly to soil particles**, which **prevents the leaching** of glyphosate **into groundwater**.
- **Glyphosate does not degrade quickly in plants**. As a result, **it is possible that glyphosate residues can occur in food products**.

Q1) What is an enzyme?

An enzyme is a type of protein molecule that acts as a biological catalyst in living organisms. Enzymes play a crucial role in facilitating chemical reactions within cells by increasing the rate of those reactions without being consumed or permanently altered themselves. They are essential for maintaining life processes and metabolic activities in all living organisms, from bacteria to humans.

Source: [Experts warn against sale of herbicide glyphosate](#)

Source: <https://vajiramandravi.com/current-affairs/about-glyphosate/>

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